THE DELAWARE AND HUDSON RAILROAD BULLETIN

SEPTEMBER 1, 1934

BY-ROAD
NEAR THURMAN, N.Y.

It Matters Much

IT matters little where I was born,
Or if my parents were rich or poor;
Whether they shrank at the cold world's scorn,
Or walked in the pride of wealth secure;
But whether I live an honest man,
And hold my integrity firm in my clutch,
I tell you, brother, plain as I am,
It matters much.

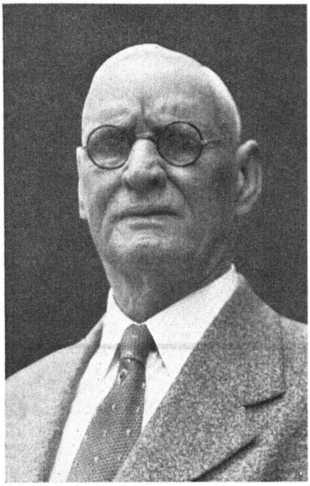
It matters little how long I stay,
In a world fraught both with joy and care;
Whether in youth I am called away,
Or live till my bones and pate are bare;
But whether I do the best I can
To soften the weight of adversity's touch
On the faded cheek of my fellow man,
It matters much.

—ANONYMOUS.

The
DELAWARE AND HUDSON RAILROAD
CORPORATION
BULLETIN

Conductor Knew McKinley

Retired Northern Division Man Handled President's Special



WILLIAM H. CLIFFORD

ONE of the fastest trains ever operated by the Delaware and Hudson, according to retired conductor William H. Clifford, was the *Boston-Saratoga Express* which was scheduled to cover the 65 miles between Rutland and Saratoga in 85 minutes, with a water stop out at Whitehall. This train, running over the Boston and Maine, Rutland, and Delaware and Hudson, was very popular in the latter's territory, but lack of patronage on the other two lines led to its abandonment at the conclusion of its first summer. However, when the service was inaugurated, nearly 50 years ago, Superintendent C. D. Hammond picked Engineman Louis Peart and Conductor Clifford to head the crew and gave them what he called the fastest engine on the line, with orders to run her as fast as she would turn a wheel.

One of Mr. Clifford's brightest memories is that of the trip he made from Saratoga to Troy with a special train bearing President William McKinley. The President, tired of receptions and speeches, had requested that the special leave Saratoga an hour early but reach Troy on schedule. It was therefore necessary to kill two and one-half hours on the 34-mile run. En route Secretary of War Alger, who towered 6 feet 4 inches in height, brought a box of cigars into the coach for the crew and insisted that Conductor Clifford go up to meet the president. Mr. Clifford did so and he found President McKinley the most fascinating personality he had ever met.

Mr. Clifford was born at Rutland, February 5, 1856, the son of a Rutland Railroad machinist. At 14 he left school to work in a drug store at $3.50 per week, his hours being from 6 A. M. until 10 P. M. and he was required to sleep in the store. There were seven other clerks in the store at the time and Mr. Clifford finally "stood third on the roster," with the title of prescription clerk, when he resigned to enter the employ of the Rutland as a switchtender at $40 per month. He had worked his way up to a position on the St. Albans-Rutland freight crew before following several other Rutland men to the Delaware and Hudson, which paid its trainmen $5 more a month.

Shortly after C. D. Hammond was made superintendent, he took all freight trains off the timetable, except two local freights, the others being designated as extras. Six crews were then put on at Whitehall to go anywhere occasion might demand. The yard office was then located in the station and a man never knew where he was going until he reported at the station to register on duty.

After one and a half years MR. CLIFFORD bid in the Whitehall-Rutland "Hill Freight," an accommodation train with a single passenger coach on the rear. On the westbound trip they were due in Whitehall at 7 P. M., although they frequently lay outside of the town until 3 A. M., awaiting an opportunity to yard their train.

During the balance of his 48 years in Delaware and Hudson employ MR. CLIFFORD worked on practically every mile of the system north of Schenectady at one time or another.

For some time he ran the "Boat Train" from Saratoga to the steamboat dock in Albany, returning with a "Race Train." In the afternoon they made another trip to Albany with a fast freight train, picking up passengers from the Day Line boat for the return trip.

At the conclusion of the summer season he relieved four other conductors in turn so that they might take their two-weeks' vacation with pay. Later, when a new wage scale was adopted, the vacation clause was dropped.

For seven years MR. CLIFFORD held the Adirondack Branch passenger run, leaving it to begin a term of 10 years operating between Rutland and Whitehall.

MR. and Mrs. CLIFFORD, who have been married 54 years, live at 21 Royce Street, Rutland, spending their winters in Glens Falls, at the home of their daughter, Mrs. T. J. Kennedy. MR. CLIFFORD is a member of The Delaware and Hudson Veterans' Association.

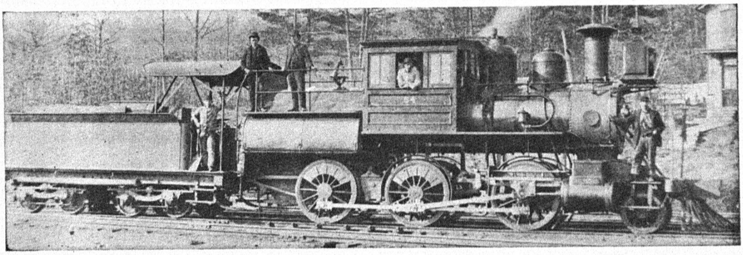
Horrors of War Take On a New Angle

THE development of the modern naval vessel from the product of the days of "wooden ships and iron men" to the present-day marvels of mechanical ingenuity is a matter of common knowledge. That the United States Navy has sufficient equipment to publish a large-sized daily newspaper may be news to some of our readers.

Twenty-six ships are fitted up to print their own papers, in addition to such other "job printing" as is necessary to the operation of the vessels. On board the *U. S. S. New York* the "Knickerbocker" is published, a four page, tabloid paper with a nameplate incorporating a picture of a battleship against the skyline of Manhattan. On the *Pennsylvania* the "Keystone" is published and on the *Indiana* the "Hoosier." The "Tennessee Tar" and "At 'em Arizona" are self-explanatory, as is the "Arklite" to those who are aware that the *U. S. S. Arkansas* is commonly dubbed "the old Ark" by the rest of the fleet. Then there is the "Mountaineer" of the *U. S. S. West Virginia.*

Other vessels equipped with printing shops include the *Altair, Augusta, Bushnell, California, Canopus, Chicago, Colorado, Dobbin, Houston, Indianapolis, Lexington, Maryland, Melville, Nevada, Northampton, Oklahoma, Ranger, Saratoga, Texas* and *Whitney.* Perhaps the next war will be won by newspaper propaganda spread by our sea fighters.

Brand New From Dickson Locomotive Works



Locomotive 64, taken at Nineveh, March 1, 1887. E. R. Sampson, now a retired engineman, holds the shovel; in the cab, Engineer John E. Mack; at his right, Conductor Thomas Kirkbridge. The name of the brakeman is not known.

$80,507 Under Group Plan

To Beneficiaries of Delaware and Hudson Employes' Insurance Policies

A TOTAL of $80,507 was distributed to the beneficiaries of 26 Delaware and Hudson Railroad employees who died during the four-month period April 1 to July 31, 1934, under the Group Insurance Plan. Individual payments were made as follows:

NAME	OCCUPATION	LOCATION	DATE DIED	CLAIM
Bogle, Samuel	Trainman	Saratoga	7-7-34	a $ 3,200
Burnett, Thomas W.	Trainman	Wilkes-Barre	4-18-34	1,600
Bushnell, Sherman B.	Gang Leader	Oneonta	5-25-34	t 2,207
Collins, James P. (P)	Section Foreman	Beekmantown	5-5-34	1,800
Connor, James P.	Crossing Watchman	Archbald	6-7-34	1,000
Davis, William	Sta. Fireman	Albany	7-15-34	1,000
Forget, Joseph	Valve Setter	Colonie Shops	5-9-34	1,000
Goodfellow, William (P)	Boilermaker	Saratoga	5-2-34	1,800
Graulich, Philip (P)	Yard Clerk	Whitehall	4-12-34	1,600
Hafensteiner, Michael, Sr. (P)	Machinist	Colonie Shops	3-29-34	2,600
Hildebrand, Justus, J. (P)	Crossing Watchman	Scranton	5-1-34	1,000
Kartner, Michael	M. C. Watchman	Hudson	7-11-34	1,000
Koch, Charles	Assistant Foreman	Hudson	5-6-34	2,800
LaMay, Mitchell J.	Crossing Watchman	Whitehall	6-27-34	500
LaMore, William H.	Trainman	Whitehall	5-16-34	1,000
Lavin, Frank J.	Gen. Yd. Master	Whitehall	4-27-34	L. & S. 6,000
Murdoch, John C.	Loco. Inspector	Binghamton	4-10-34	3,400
Nestico, Ralph	Box Packer	Carbondale	4-11-34	1,400
Neuser, Joseph	Mail Clerk	Albany	7-22-34	1,200
O'Brien, Daniel (P)	Laborer	Troy	5-29-34	1,000
O'Brien, William S.	Trainman	Binghamton	4-3-34	2,000
Perrault, Edward W.	Engineer	Oneonta	6-11-34	e 5,600
Proctor, Nelson H.	Ditcher Engr.	Oneonta	4-13-34	a 2,000
Purcell, Martin H.	Checker	Albany	4-12-34	1,600
Quinlan, John F.	Conductor	Colonie	5-9-34	c 5,600
Reinhart, Jay	Gen. P. W. Inspector	Colonie Shops	4-24-34	3,000
Rozell, Arthur	Trainman	Fort Edward	3-28-34	1,800
Smallin, William	Mill Mach. Operator	Oneonta	4-20-34	a 3,600
Sparto, Louis	Trackman	Ballston	5-10-34	1,000
Stanton, Charles B.	Teleg.-Clerk	Delanson	6-1-34	2,200
Surdoval, William H.	Trainman	Carbondale	4-28-34	2,200
Treverton, Oliff (P)	Trainman	Carbondale	3-27-34	1,800

DEATH BENEFITS PAID

Breault, Joseph (P)	Laborer	Rouses Point	5-6-34	1,200
Case, Adolphus (P)	Cook	Plattsburg	6-5-34	1,400
Chesebro, William (P)	Laborer	Mechanicville	5-21-34	1,000
Collins, Wesley L. (P)	Agent-Teleg.	Russia	5-15-34	1,600
Cunningham, John (P)	Helper	Troy Bridge	5-27-34	1,400
Kennedy, James (P)	Crossing Watchman	Hudson Falls	6-24-34	1,000
Smith, Thomas C. (P)	Crossing Watchman	Central Bridge	4-14-34	1,200
Tario, Ezra (P)	Trainman	Albany	4-22-34	2,200
				$80,507

(P)	Denotes pensioned employee.
a	Includes payment under Accidental Death and Dismemberment Insurance.
c	Includes payment under Conductors' Special Life Insurance.
e	Includes payment under Engineers' Special Life Insurance.
L. & S.	Includes payment under Line and Staff Special Life Insurance.
t	Balance due after Total and Permanent Disability payments had been paid.

What Kind of Government?

Principle of the Constitution Must be Preserved at Any Cost

THE ideal form of government is of course that of the United States, with its written constitution, its principle of representation, and its separation of powers. Yet the professors do not want to appear dogmatic about it. Gros for instance dismisses all theoretical discussion of the basis and origin of government as unprofitable. Witherspoon, a signer of the Declaration of Independence, inclines to the contrary theory. He acknowledges the advantages of democracy, but at the same time his fear of demagogues leads him to declare for a mixed form, in which democratic and aristocratic elements are evenly balanced to prevent majority tyranny. And Smith agrees with Montesquieu that the form of government must be adapted to the character of the people, the determining factors of which are their religion, occupation and history, as well as the climate and strategic position of their country. No amount of legislation can change such fundamental conditions. That government is best which works. Any of the historic forms, despotism, monarchy, aristocracy or democracy may prove successful provided conditions are right; but since in a democracy the mainspring of action is virtue, that is the preference of public or private interests, that form is after all superior to any other.

"In order to keep it so, urges Smith, intelligent American citizens will have to pay attention to a number of little matters, any one of which may, if not checked in time, grow into a menace to free institutions. And here again the human element enters in and moral precepts are made to fit political views of the moment. There is the separation of powers, that bulwark of liberty, which some states, he fears, are beginning to neglect. Then as to the suffrage the best plan undoubtedly is a property qualification: 'Universal suffrage is always dangerous in time to the tranquility of the state.' Furthermore, he says, candor demands that the ballot be open and not secret. Indirect taxes are preferable to direct. If the government must tax directly let it levy a land tax, which is easily imposed. Stocks and bonds should not be assessed, for that would be prying into trade secrets. But the most odious of all is the federal excise tax, which leads to snooping and spying and brings the government into disrepute. There should be no interference with complete freedom of trade. An occasional restrictive government policy to foster manufacture may be desirable, yet on principle 'commerce ought to be as free as the ocean on which it is borne or the winds which waft it.' Even though trading may engender a shrewd calculating spirit, the merchant's calling is an honorable one, and a flourishing commerce is prerequisite to national prosperity. It is also well to bear in mind that prices and values depend upon supply and demand, and that it is a mistaken policy to interfere with an economic axiom by legislation.

"With this political confession of faith President Smith closes his discussion of government and its powers. Some of his views have been superseded, others may be found in modern textbooks of political science and economics. His general attitude is best summed up in his observation that 'while the principle of the constitution is preserved the worst laws are harmless, when that is corrupted the best are useless.' "—From *The Old Time College President*, by George P. Schmidt, Columbia University Press, New York.

(NOTE—This is the third of a series of five articles the fourth of which, entitled "John Law and the Mississippi Bubble," will appear next month.—EDITOR).

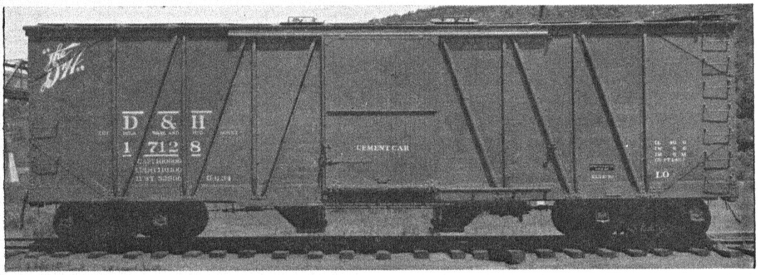
That Indian

HAVE you ever looked closely at the "Indian" on our old one-cent piece? Are you sure it is an Indian? At any rate, here is the story:

In 1835, the United States government offered an award of $1,000 for a suitable design to be placed on the new one-cent coin soon to be issued.

About this time some Indian chiefs from the far Northwest visited the "Great Father," as they called the President. After visiting Washington they went to Philadelphia to see the mint. The chief engraver, James B. Longacre, invited the Indians to his home.

His daughter, aged 10, was greatly delighted with these guests. During the evening one of them placed his feathered war bonnet on her head. An artist, who was among the guests, quickly sketched the girl's picture and handed it to her father. He was pleased, and decided to enter it in the contest for the coin design. It won the competition, and the face of the little "Indian" has gone into more hands than any other American coin.



Our New Hopper-Box Cars

Latest Equipment for Handling Bulk Commodities

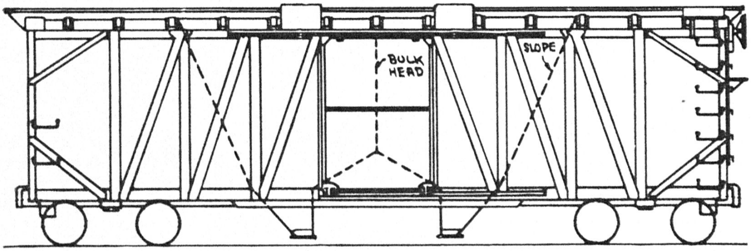
FOR many years cement shipments originating at the plants on our line at Howe's Cave and Glens Falls were forwarded in box cars, first in sacks and more recently in bulk. A growing demand for bulk shipments of cement resulted in the construction of specially designed cars for this service with the result that last year 20 all steel twin hopper coal cars were converted into cement cars.

These cars were equipped with steel roofs, constructed with eight rectangular hatches to facilitate loading, four special hoppers with unloading gates, and bulkheads to divide the loads; also the slope sheets were changed to provide a greater degree of pitch to aid in unloading.

This year the increased demand for bulk cement cars exceeded the available supply. After a careful study of the requirements, it was decided to convert box cars to handle cement as the conversion could be made more quickly and at less expense. Thirty steel frame, 100,000-pound capacity box cars were thus changed over, 15 each at Green Island and Oneonta. Each car had the entire floor removed, four hoppers with unloading gates were added, wooden slopes were built extending toward each end of the car from the hoppers to the roof and necessary supports were installed. In the center of the car a transverse bulkhead, to divide the load, extends from the roof to the point where the short hopper slopes meet. Four loading hatches were placed at convenient locations in the roof. Doorways were closed up and side doors secured in the closed position. The entire interior was covered with galvanized iron.

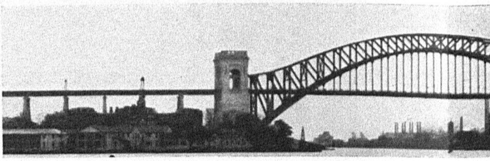
These cars are unique in that the slopes, bulkheads and doorway fillers are so constructed in sections that they can easily be removed converting the units to carry conventional box car lading.

The success of this type of car for bulk cement service is attested by the favorable comments made by shippers and consignees, also by the interested inquiries received from other railroads.



American Railroad

Part V— Bridges an



Hell Gate Bridge over East River

A RAILROAD'S right-of-way consists of far more than mere ties and rails and the earthen foundations upon which they rest; there come times when the rail pathway must pierce mountains and cross rivers—ofttimes both broad and deep. And then there must come; in the first instance, deep cuttings, and broad fills—and possibly tunnels, too; and in the second instance, bridges of one sort or another.

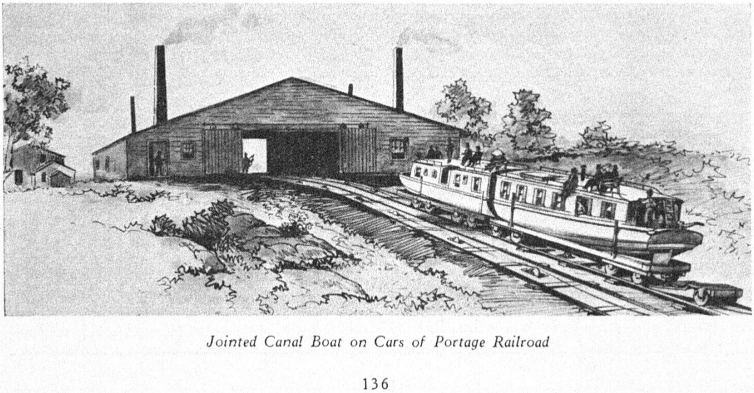
The pioneer of this first type of engineering works was the tunnel of the original Portage Railroad through the crest of the Allegheny Mountains in western Pennsylvania. Through the bore of this tunnel (900 feet in length) passed the curious double-jointed canal boats of the Pennsylvania state system of inland waterways, on their way from Harrisburg to Pittsburgh. For a distance of 38 miles these craft were lifted entirely clear of the water and transported across the mountains by an early railroad, over inclined planes and through the tunnel.

The Allegheny Portage tunnel has been abandoned these many years and gone also are Black Rock Tunnel of the Philadelphia and Reading and the Elizabethtown one of the Pennsylvania, which followed close upon its heels. The fourth of these bores—the tunnel of the former New York and Harlem under Park Avenue in the upper part of Manhattan Island—long since disappeared in the even larger tunnel all the way from the Grand Central Terminal to the Harlem Plain, but it is still in existence and used daily by a multitude of trains of the New York Central and New Haven lines.

These four tunnels were all completed prior to 1837. In the next 13 years, 13 more tunnels had been completed upon American railroads, and another 12 begun. Of this first group the longest was the 1207-foot bore of the Baltimore and Ohio at Doe Gully, Va., 60 miles west of Harper's Ferry which was completed in 1849, and the second, the Kingwood Tunnel, of the same railroad and in the same state (now West Virginia) 4100 feet in length through the crest of the Alleghenies. This last was not finished, however, until later, trains being carried over the top of the incomplete bore by means of a temporary switch-back line for two years or more.

In the fifties many tunnels, ranging in length at about 3,000 feet, were pierced through the crest of the Alleghenies, in addition to the important Bergen Tunnel of the Erie Railroad (4388 feet long) down to tidewater at Jersey City, N. Y. The completion of these works, as well as other

Courtesy Pennsylvania R. R.



Jointed Canal Boat on Cars of Portage Railroad

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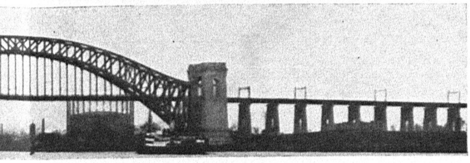


Courtesy N. Y. N. H. & H. R. R.

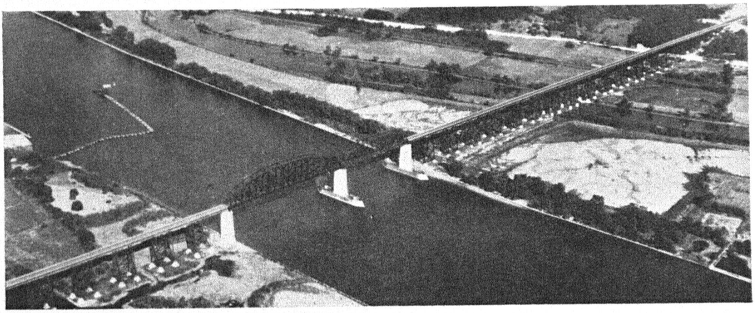
somewhat shorter ones, involved some of the most dangerous, difficult and expensive construction ever attempted by the American railroads. To bore them—even in those days of comparatively low construction costs, meant an expenditure of all the way from $500,000 to $2,000,000 a mile.

All these earlier tunnels were eclipsed however by the Hoosac Tunnel built to carry the Fitchburg Railroad under the Berkshire range of mountains in Western Massachusetts. The gigantic bore which seemed to be essential to the construction of a short mileage line from Boston to the West, was first undertaken in 1854, but because of its vast length—25,081 feet—and the solid character of the rock it sought to pierce, it cost over $10,000,000 and more than a score of lives before it was finally completed in 1871. After that it remained—until the completion of the eight-mile Cascade tunnel of the Great Northern Railway out in the Puget Sound country—the longest tunnel by far in America.

The story of the railroad bridge in America runs coincident with the story of bridge building generally. As in the case of the highway, the earliest railroad bridges generally were constructed of timber, although stone also came into very early use. The ambitious planners of the Baltimore and Ohio, building for solidity and permanency, started to use masonry exclusively for this purpose. The Carrollton Viaduct, in the outskirts of Baltimore, a magnificent single arch span of eighty feet was completed in 1830, and, although no longer on the main line of the Baltimore and Ohio, still is traversed by the road's heaviest motive power and cars. The same is true of an even more famous bridge upon that railroad—the Thomas Viaduct at Relay, nine miles west of Baltimore, which is upon the main line of the road today and which, although built upon a rather sharp curve, is traversed at high speed by the road's swiftest and heaviest passenger trains. Benjamin H. Latrobe, one of America's finest early architects and engineers, built the Thomas Viaduct, 700 feet in length and consisting of eight elliptical arches of solid masonry, each 60 feet in length.

Only one other of the really early railroad bridges of America is comparable with this last and it, too, is in steady use on the main line of an important railroad—Starruca Viaduct upon the main line of the Erie not far from Susquehanna, Pa. A Scotchman, James Kirkwood, built Starruca Viaduct (of 18 arches, 110 feet high and 1200 feet long) in 1848 and he was paid $320,000 for the entire job.

Courtesy N. Y. Central R. R.



Castleton Cut-off over Hudson River

It still remains one of the handsomest bridges in the entire land.

As has just been said, most of these early railroad bridges followed the timber fashion of the highway structures. Curious tunnel-like affairs they; their spans usually supported by trusses or by heavy timber arches and the entire structure housed and surmounted by a pitched roof. A correspondent of the New York *Evening Post* (in 1864) complaining of this type of bridge, says:

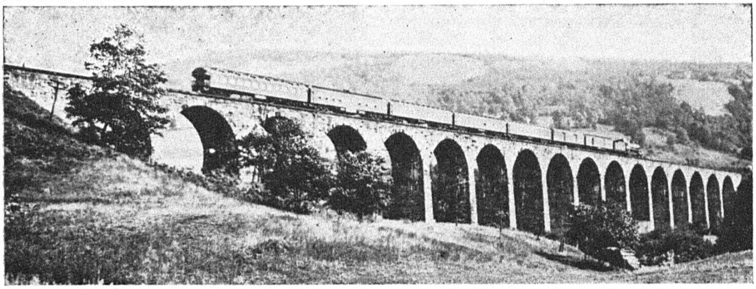
"You are riding along in a railroad car, enjoying the scenery. A river gleams ahead. You approach its banks and prepare to catch expected glimpses of beauty up or down the stream. But suddenly a roaring sound is heard. You plunge into a great wooden tunnel; wooden walls on either side hide the view; a wooden roof blocks out the light of day. After a minute of deafening noise you emerge, but the river is crossed, the stream is passed and the delicious bit of scenery is lost to you.* * *"

Aesthetic conditions such as these were not apt to make large impressions upon the unemotional railroad operators of that early day. And so these timber bridges continued to be used, for many a year thereafter. Fairly inexpensive to build, as a rule they were, however, short-lived. Floods, fires (not infrequently from the sparks of the locomotives themselves) and dry-rot were their constant antagonists. And so, gradually, they disappeared, in most instances never to be replaced—except by bridges of a totally different form of construction, until today there are hardly a dozen of them left in railroad use throughout the entire country.

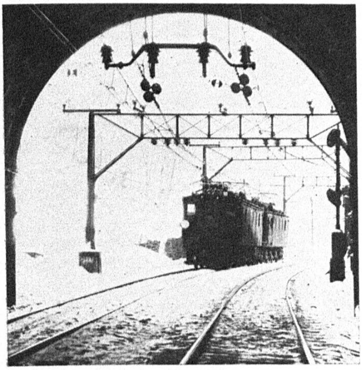
Yet some of these old timber bridges had a distinction all their own. In 1802, Theodore Burr, a famous early American bridge builder, built one of them at Trenton, N. J., and 47 years later the Pennsylvania R. R. came along and laid a double track through one of its series of parallel spans and this device carried the main line of that busy railroad over the Delaware until 1875, when it was replaced by a steel truss bridge (afterwards, in due course by the present four-track stone-arch bridge) * * * another timber bridge, built by the Baltimore and Ohio, at Harper's Ferry, Va., not only carried both railroad and highroad across through its spans, but had an actual railroad junction (of the Winchester Branch with the road's main line) right in the middle of the bridge. Still another (still standing, no longer used for railroad purposes) carried both highway and the main line of the Fitchburg Railroad over the Connecticut River, near Greenfield, Mass. Similar combination was in the old timber bridge over the Susquehanna at Columbia, Pa. There were still others.

Sometimes, not often, the railroad used that most graceful form of all modern bridges—the suspension type. Most notable of these was the historic Roebling suspension bridge, over the Niagara River, a mile or so below the falls. For many years this continued in active use, by both highway traffic and rail, until the day when it no longer was strong enough for modern cars and locomotives and gradually it was replaced, first by the use of the original cantilever of the Michigan Central R. R. close at hand and then, itself, was replaced by a steel arch for the trains of the Grand Trunk Railway. * * * The cantilevers came into considerable vogue for the crossing of deep and wide rivers such as the Hudson, at Poughkeepsie, N. Y., and the St. Lawrence just above Montreal and again just above Quebec. Another early railroad bridge at

Courtesy Erie R. R. Magazine



Starruca Viaduct Carries the Erie over the Delaware & Hudson



Portal of Hoosic Tunnel

Courtesy Boston & Maine R. R.

Montreal (in fact, the first of the two) was the famous Victoria (tubular) bridge, nearly two miles in length and with 25 spans. The construction of this great bridge—long since gone—was of tubular iron, in practical effect, a great metallic tunnel, modeled upon a similar railway bridge over the straits of Menai in Wales.

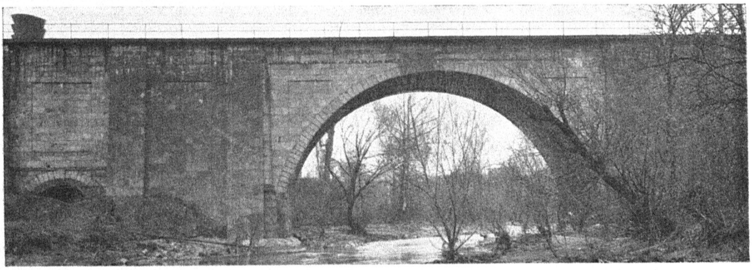
No record, however short, of the construction of great bridges for the American railroad should be made without a brief reference to the Eads Bridge at St. Louis, built upon the shifting, muddy bottom of the Mississippi in the late sixties by Captain James B. Eads, and at once proclaimed as an outstanding example of bridge architecture in the entire world. This bridge, built of huge masonry piers connected by a fabric of light metallic arches, carried—and still carries—railroad trains upon its lower level and highway traffic upon its upper. It was the first bridge constructed in America in which caissons were used to secure the proper footing for the masonry piers.

For the average crossing of water by the railroad nothing seems to exceed, in popularity or efficiency, the span or truss type of bridge. Pratt, Howe, Bollman, Fink are some of the names most readily associated with this particular type of transpontine structure. First the trusses were apt to be wrought in timber, and then, as the use of iron came into more general vogue, of iron and of timber combined and, finally, of iron entirely, with iron giving way gradually to steel, and the bridges growing higher and longer all the while. Sometimes monumental, as in the case of the great bridge (in reality a steel arch) that carries the New York Connecting Railroad over the East River at Hell Gate, in the city of New York; sometimes very high, as at Portage, N. Y., at Kinzua, Pennsylvania, at Pecos, Texas, and at High Bridge, Ky.; sometimes very long, as the two bridges over the Susquehanna at Havre de Grace, Md., or at Vancouver, Wash., near Portland, and sometimes both high and long, as in the case of the bridges at Cincinnati, Louisville, St. Louis and further down the Mississippi, at Thebes, Mo., the Castleton Bridge of the New York Central across the Hudson below Albany and the great new structure that carries the Southern Pacific over the Straits of Martinez in California. The list, even of the important bridges of this type, runs to considerable length.

Concrete too comes into the picture; for long structures and high, as well as for smaller. The Lackawanna Railroad in both New Jersey and Pennsylvania has built for itself some outstanding

(Concluded on page 142)

Courtesy Baltimore & Ohio Magazine



Carrollton Viaduct, Completed in 1830

The
Delaware and Hudson Railroad
CORPORATION
BULLETIN

Office of Publication:
DELAWARE AND HUDSON BUILDING,
ALBANY, N. Y.

PUBLISHED MONTHLY by The Delaware and Hudson Railroad Corporation, for the information of the men who operate the railroad, in the belief that mutual understanding of the problems we all have to meet will help us to solve them for our mutual welfare.

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DON'T complain about your neighbor,
For in your neighbor's view,
His neighbor isn't faultless—
That neighbor being you.

The Flywheel

OUR friend, the mechanical engineer, tells us that it takes six times as much power to start a fly-wheel from a dead start as it does to keep it going, once it is in motion. In other words, it takes only one-sixth as much effort to keep going good once you are on the way as it does to stop a bit and rest and then start over again. When you are tempted to slacken, just because things are coming your way, remember the fly-wheel.—*Salesman's Service.*

A Hold-up

IT will be a long time, we would imagine, before 104 teachers from New York, New Jersey and Pennsylvania, who recently were stranded by a bus line while on a tour of the United States, will look kindly toward that mode of transportation.

These teachers, 104 of them, touring in two large busses under the managemnt of Rev. E. O. Schwitters of Bloomfield, N. J., were delayed at Amarillo, Tex., as the tour management and drivers of the two busses, in which most of the group were traveling, failed to settle an alleged dispute.

The teachers maintained they had paid their assessment in advance for the complete tour. Although reasons were not forthcoming, the teachers understood the drivers had refused to continue without additional funds.

Just imagine an engineer of a train setting the brakes and coming back to the Pullmans and coaches and informing his passengers that he wouldn't go on until they had paid him additional fare! JUST IMAGINE THAT!

Wants and Needs

SOMEONE has well said, "You can get anything you want if you are able and willing to pay the price." But there are many these days who want to get things without paying for them. The boy at school who wastes his time and thinks he will have an education simply because he is in school the required number of years, will discover that he was mistaken. To become educated it is necessary to study and work through many years—practically through an entire lifetime.

Paderewski, the great pianist, said, "Unless I practice eight hours a day on the piano, I know that I cannot do my best at the next concert. If I practice only six hours a day the critics discover that I am not up to standard, and if I practice only four hours a day the audience soon finds it out." What a lesson this is to those who want to get through life easily and without much effort!

There are those who try to take the short cut through life. They want all the good things, but they do not want to pay the price. They want fine clothes, life's pleasures, and to ape the wealthy and renowned; but they lack the wherewithal, whether in money, training, or standing. They turn to gambling, crime, and other questionable means to supply their wants. Soon they find themselves in the hands of the law, and discover that sin is a hard master, and that they could very much more easily have earned enough for their needs than to have committed crime to supply their wants.

And this leads to another thought. There is a vast difference between what we need and what we want. One day when Socrates was in the market and saw the many things there, he said: "Behold, how many things I do not need!"

There were doubtless many things there he would have liked, and might have wanted, but he needed only a few things. Most of us come to grief at one time or another in our lives because we do not note the difference very carefully between our needs and our wants.—*The Lookout.*

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Do that which is right. The respect of mankind will follow; or, if it does not, you will be able to do without it.—*Goethe.*

Infection

And How Nature Equips Us to Fight Invasion of Bacteria

INFECTION means the invasion of the body by bacteria. Bacteria are very minute living organisms, one celled, belonging to the plant kingdom, multiplying by fission, or simple division and some varieties by spores. The envelope of skin and mucous membranes are normally impenetrable by germs. There are innumerable germs living upon the surface of the body, however, and a small break in the epithelium, the outer surface of the body, is sufficient to admit a multitude of bacteria to the interior of the body. Here in the body tissues they find warmth and food and proceed to multiply by thousands.

But the body tissues are not defenseless before the invasion of bacteria. If human beings had no safeguard against these invasions the human race would soon cease to exist. Throughout the ages of evolution and struggle, mammals died by hundreds and thousands until their tissues learned to fight the invaders and to conquer, and these qualities were transmitted to their offspring.

Let us study the process of infection. It may be compared to a battle between the germs and the tissues of the body. We will take for example a small cut which has been neglected, dirt has been rubbed into it and the bacteria are beginning to invade the body. They multiply and extend through the tissues and grow. In the process of their growth they form poisons which irritate the nerves which are the telegraph wires of the body. A telegram is rushed to headquarters (the brain). "The body is invaded by an enemy. Rush reserves!" The brain telegraphs back to the blood vessels and they enlarge; and to the heart, and it beats more rapidly: to other centers and the body temperature is raised, the tissues are filled with blood. White blood cells are rushed to the spot, dash through the walls of the blood vessels and fall desperately upon the invaders. They devour them bodily, engulfing them into their substance, they kill the germs: sometimes the germs kill them and their dead bodies become pus cells. The tissue cells manufacture and release chemical bodies which neutralize the toxins of the germs and which are therefore called antitoxins. While this battle rages the subject becomes conscious of the changes occurring in his system which we call the signs of inflammation. These were noticed long ago and called the cardinal signs of inflammation. They were called in latin "Rubor, tumor, calor and dolor." That is in English "Redness, swelling, heat and pain." Anyone who has ever had a boil knows these signs, it is red and swollen above the surrounding skin, hot and certainly painful. The redness, swelling, and heat arise from the filling of the tissues with blood, and the pain from irritation of the nerves from pressure and poisons.

The local battle may terminate in several ways. The defense forces may gain the upper hand rapidly and kill off the invaders promptly. In this case the signs of inflammation subside and the part returns to normal. Or the field may be more stubbornly contested and the battlefield strewn with the bodies of the valiant soldiers. The tissues dissolve and an abscess is formed which is either cut open with a sharp instrument, or breaks and discharges pus which consists of dead white blood cells, liquified tissues and millions of germs. Or the germs may dash past the stalwart defenders into the recesses of the system. The next line of defense is at the lymph-nodes where fresh white cells fling themselves on these invaders in a passion of patriotism, this stage of the battle being manifested by red streaks extending up the limb and swollen and painful lymph-nodes, commonly called "kernels." Generally the invaders are checked at the lymph-nodes, but if they win past this barrier the bacteria then float free in the blood stream and we have blood poisoning or septicemia a condition which is frequently though not always fatal, as colonies of germs are then apt to lodge in the vital organs, heart, lungs, kidneys, liver, etc., causing more serious complications.—*Suds.*

Costly Illustration

A judge was pointing out that a witness was not necessarily to be regarded as untruthful because he alters a statement made previously.

"For instance," he said, "when I entered this court today I could have sworn I had my watch in my pocket. But then I remembered I had left it in the bathroom at home."

When the judge got home that night his wife said: "Why all this bother about your watch—sending four or five men for it."

"Good heavens," the judge exclaimed, "what did you do?"

"I gave it to the first one who came; he knew just where it was."

"New Dealers" of 1838

THERE are persons who constantly clamor. They complain of oppression, speculation and pernicious influence of accumulated wealth. They cry out loudly against all banks and corporations, and all means by which small capitalists become united in order to produce beneficial results. They carry on mad hostility against all established institutions. They would choke the fountain of industry, and dry all streams. In a country of unbounded liberty, they clamor against oppression. In a country of perfect equality, they would move heaven and earth against monopoly. In a country where prosperity is more evenly divided than anywhere else, they rend the air shouting agrarian doctrines. In a country where wages of labor are high beyond all parallel, they would teach the laborer he is but an oppressed slave. Sir, what can such men want? What do they mean? They can want nothing, sir, but to enjoy the fruits of other men's labor. They can mean nothing but disturbance and disorder, the diffusion of corrupt principles and the destruction of the moral sentiments and moral habits of society."—*(From a speech made by Daniel Webster in the United States Senate, March 12, 1838).*

American Railroad Development

(Continued from page 139)

viaducts of this sort. But one of the most interesting of this type of concrete arch bridge—or rather a series of bridges—is that which carries the Florida East Coast Railway for 90 miles, more or less, literally over the sea, to Key West. The only railway structure comparable with this is the Lucin Cutoff—a timber trestle, 19 miles in length, by which the Southern Pacific spans the very middle of the Great Salt Lake in Utah. Again, the list could be brought to a considerable length and in it would be included the great modern stone arch bridges of the Pennsylvania over the Delaware and the Susquehanna and that of the Baltimore and Ohio over the Brandywine, at Wilmington, Del.

In no one way does the American railroad proclaim itself as a creature of enterprise and of vision more than in the construction of these splendid rail bridges all the way across the land, unless perhaps in the creation of modern railroad terminals. To the student of railroads the world over, the magnificent Grand Central Terminal and the Pennsylvania Station in New York; the North and South stations in Boston; the Washington Union Station; the Union Station in Chicago; and the stations in Buffalo, Cleveland, Detroit, St. Louis and Kansas City, Montreal and Toronto, need no introduction, whatsoever. Great passenger stations in America have come and gone, leaving little trace whatsoever of their former glory. Amongst these were the Park Square Station, in Boston; the first Grand Central Depot, in New York; and Broad Street Station, in Philadelphia. Yet, these have been replaced by passenger terminals even finer. And so there has come, in very recent years, the superb new passenger stations in Cincinnati, in Philadelphia and in Omaha—each of them an architectural triumph.

Freight terminals are less impressive—pale a bit when compared with the architectural magnificence of their passenger compeers. And yet to the efficient and economical working of the modern American railroad they are not less important. The new freight houses adjoining the Union station, in Chicago, are marvels of their sort; not less so the freight terminals along either side of the Hudson in the port of New York; those of the Pennsylvania in Jersey City; of the Lackawanna, in Hoboken; and the wonderful hundred-million-dollar West Side Improvement of the New York Central upon the rim of the island of Manhattan are well worth the attention of any student of modern railroading. So, too, the great shops and roundhouses of our larger roads; far too many to be even roughly enumerated here, but worthy of careful inspection by any student of modern rail transport.

(End of Series)

Veterans to Hold Clambake at Neahwa Park

THE Annual Outing and Clambake of The Delaware and Hudson Veterans' Association will be held at Neahwa Park, Oneonta, at 12:30 P. M., (E. S. T.), Saturday, September 15. Veterans from points north of Oneonta will use train No. 302; a special train will be run from Wilkes-Barre to Oneonta, the exact schedule of which will be announced at a later date.

Tickets, at $1.50 per person, may be obtained from any of the officers of the organization.

Desperate Case

Her husband being slightly indisposed, the young wife tried to take the patient's temperature, and in a state of great excitement scribbled this note to the doctor:

"Dear Doctor: Please come at once. My husband's temperature is at 136 degrees."

The Physician replied:

"Dear Madam: The case is beyond my skill. Send for the fire-engine."

Clicks from the Rails

World Speed Records

for steam passenger trains were shattered on July 20, when the *Milwaukee Express,* of the C. M. St. P. & P., covered the 85 miles between Milwaukee and Chicago in 67 minutes, 35 seconds, averaging 91.1 miles per hour. The maximum speed attained was 103 miles per hour, while for 70 miles the train maintained 91.1 miles, and for 31 miles the speed recorder registered 93. This run compares favorably with that of the Burlington's *Zephyr,* which reached 112 miles per hour on a run between Denver and Chicago, although the *Zephyr* had special police protection at crossings, other trains were sidetracked, and unusual precautions were taken all along the line. Had the steam train had similar advantages it might easily have exceeded the *Zephyr's* pace.

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The Twentieth Century

Limited "posed" for 25 reels of moving picture film, some of which will be used in the production of the picture *Twentieth Century.* Shots were taken from another locomotive running from 10 to 40 feet ahead of the *Century's* engine, with the cylinder cocks open, and the whistle blowing at intervals. Additional pictures were taken of the locomotive wheels, cab, and tender.

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A "Station for Rent"

sign has been hung on the London Midland & Scottish Railway's depot at Leigh-on-Sea. Some time ago the station at Finchley Road was rented to a troop of Boy Scouts. The success of this venture has led the railroad to attempt to rent every station which is closed because of declining business.

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Dust-laying Sprinklers

which spray a curtain of water ahead of the train during the hot summer months have been fitted to 140 locomotives on the Canadian National Railways.

Seeking Information

on how the public would receive his new streamlined train, President Budd of the Burlington mingled with the crowds at the Chicago Exposition. The story goes that he listened in silence to the various comments for a time, then, addressing a group of interested young ladies, he asked what it was all about. "Why, haven't you heard? It's the *Union Pacific's* new Burlington Zephyr," came the prompt reply. Whether or not Mr. Budd's face crimsoned is not stated.

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Three Dragons

or more properly dragon lizards, captured in the Dutch East Indies, recently traveled by Railway Express from Montreal to New York City, where they were to enter the Bronx Zoo. Throughout the trip it was necessary to maintain the car temperature at between 65 and 80 degrees. The dragons, once installed in the Zoo, are expected to live at least 100 years.

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Tardy Russian Engineers

are punished for bringing their trains in late by the imposition of fines. In a recent case, however, the sting was somewhat removed from this punishment by the engine crew being almost immediately thereafter rewarded for the fuel economies effected as the result of their unhurried progress. In each case, the disciplining officers were women.

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Four Million Ladybugs

formed a unique shipment which recently left Oroville, Cal. via Railway Express to a Los Angeles dealer. These "insect policemen," as the *Express Messenger* calls them though policewomen seems more appropriate to us, are shipped by the gallon, a quart containing 30,000, and are turned loose to prey upon the aphis or plant lice which menace the fruit crops.

Low Coal Consumption

is but one of the features which make the Guernsey Railway Company in England distinctive. In addition to providing transportation, this line, which is electrified, sells ironware, specializing in kitchen ranges, instals electric power plants and indulges in mechanical and marine engineering. All these accomplishments are blazoned forth on the walls of the depot. Less prominence is given to yet another function, that of official refuse destroyer to St. Peter Port. The roast garbage of old Guernsey, used to fire the boilers in the power plant, rarely fails to supply the fuel requirements of the road and very little coal is burned in consequence.

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Long Distance Records

for high speed operation go to the *Sud Express* of the French Paris-Orleans-Midi Railways. For the first time in railroad history an express has been scheduled to cover a distance of over 300 miles at more than a mile-a-minute speed inclusive of stops. The *Sud* makes the 362 miles from Paris to Bordeaux in 355 minutes with four intermediate stops.

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Through Sleeping Cars

will be operated between London and Paris, and possibly other continental cities, next year, upon the start of a train ferry service by the Southern Railway of England. Specially designed cars will be operated by the International Sleeping Car Company, the Pullman of Europe, as the narrow loading gauge of the line between Dover and London will not permit the use of the standard *wagon lits* operated on the continental railways.

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Train Travellers Transferred

to canoes, mails being likewise carried, when floods barred the progress of trains between Montreal and Halifax early this year.

Straight

TODAY I have added to my wealth a priceless treasure. To find it, I did not have to dive to the bottom of the sea, nor blast the granite mountain side, nor dredge a field, quarry a mine, nor play a sharper's trick. I looked straight into a man's clear eye, spoke a true word, received a signal of understanding, and now, for life, I have a friend.—ANON.